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1954 WEED CONTROL In Field Crops

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How Weeds Spread

Did you ever stop to think just how or where you ever got so many different weeds? Did you ever wonder how weeds spread from one field to another, or from one farm to another? Did you ever blame part of it on yourself and not on someone else?

Ask yourself these questions:

1. Do I buy seed from my neighbor and plant it because its cheap?
2. Do I make certain the seed I plant has been cleaned?
3. Do I realize that the best seed is the cheapest?
4. Do I ever use feed grain for planting or do I use screening for livestock feed?
5. Do I really do a job of weed control in row crops? What happens after the last cultivation?
6. Do I ever rogue the small grains for patches of new or serious weeds?
7. Do I mow the pastures, fence rows, and waste areas to keep weeds from going to seed?
8. Do I ever mow the weeds around the barn, chicken house, hog lot, or garden?
9. Am I careful in moving crops from one part of the farm to the other, or is it important?
10. Do I plan each year to ensile weedy first-cutting hay crops?
11. Do I really look for new weeds or worry about new ones until they are spread all over a particular field or over the whole farm?
12. What weeds that I don't want are in my neighbor's field just across the fence?
13. Does the custom operator ever clean his combine or baler, or is it too much trouble? Did you ever check it when he comes?
14. How do the roadsides look along my farm?
15. Am I following the best weed-control practices to get economical production and a quality product?
16. Should I cooperate with my neighbor in controlling weeds or is it every man for himself?

When to Spray Corn

With increased use of 2,4-D on corn, the question of when to spray is asked more and more frequently. Many farmers use 2,4-D at the wrong time for best results and consequently have trouble with injury.

The safest time to spray corn is when temperatures are low and the corn is growing slowly. Normally this is when corn is small. Post-emergence treatment of corn with 2,4-D has been most effective when applied before the corn is 10 inches tall. The recommendation is between 4 and 10 inches. It is much safer, however, to spray corn before it is 4 inches tall than after it is 10 inches. More economical and effective weed control has resulted where spraying followed the first cultivation by 10 to 14 days. If, however, the major weed problem is broad-leaved species, spraying can replace the first cultivation with excellent results and with a saving of time as it is the first cultivation that is slow and nerve-racking. If, however, grassy weeds are the major problem, early and frequent cultivation is essential to hold them in check. The use of 2,4-D as a post-emergence spray is not effective on grasses.

When corn is sprayed after the recommended height, one of the following suggestions should be followed: (1) put on drop pipes to keep the 2,4-D off the leaves or (2) use less 2,4-D than recommended. When corn is from 18 to 24 inches tall, ¾ pound per acre should be used even though it will not give so satisfactory weed control.

Another important point concerning the use of 2,4-D is that it is a supplement to cultivation and not a replacement for cultivation. Many farmers fail to appreciate the importance of grass control as well as broad-leaved weed control. The real value of 2,4-D is to remove the broad-leaved weeds in the row. The cultivator is still an essential tool in efficient corn production.

The fact that corn is free from weeds at the last cultivation does not mean that it will be weed-free at harvest. Apparently many farmers forget the corn field as soon as they complete the last cultivation. Many weeds may germinate later, particularly the annual grasses and even the field bindweed and the wild morning glory. An application of 2,4-D with drop pipes, to keep the chemical off the leaves, may be advantageous. Up to 1 pound of 2,4-D per acre can be applied at this time without injury if drop pipes are used. If the field is clean at time of treatment, 2,4-D acts as a pre-emergence spray and has made a marked difference at time of harvest.

Spraying corn—at planting

The idea of spraying corn at time of planting is still experimental. It is being suggested for trial where perennial grasses are an early season problem. The treatment has given good control of annual grasses and broad-leaved weeds, and on many farms has suppressed the growth of quack-grass for four to six weeks after planting.

Spray nozzles are mounted directly on the corn-planter packer wheel and

a band of chemical from 10 to 12 inches wide is sprayed directly over the row. Calibration of the equipment and proper location of the nozzles as to distance behind the packer wheel and height above the ground are important.

The amine dinitros (Dow Premerge or Sinox P.E.) applied at the rate of 6 pounds (2 gallons) per acre looked promising in Cornell tests. Annual grasses and broad-leaved weeds were controlled and quackgrass was suppressed.

The primary reason to use this treatment is to control or suppress the grasses. Broad-leaved weed control is more economical with 2,4-D low volatile ester as a pre-emergence or 2,4-D amine as a post-emergence spray.

Established Legumes

TO DATE, chemical control of weeds in established legume seedings is not recommended. This is particularly true when alfalfa or birdsfoot trefoil is present. Ladino clover is more resistant than alfalfa or birdsfoot but it too may be severely injured.

Yellow rocket or winter cress is serious in new legume seedings in the Northeast and farmers are particularly anxious to control it. At present, chemical control is not the answer. The hope that MCP could be used at some stage of growth without a reduction in legume stand has been disappointing.

Fall and early spring treatments with 2,4-D amine, MCP, and dinitros have been investigated. 2,4-D and MCP have given good control of weeds, particularly yellow rocket, but alfalfa and birdsfoot stands have been reduced. The treatments have looked most promising on red clover but have reduced alfalfa and birdsfoot stands from 10 to 40 per cent. Since most seedings contain some alfalfa, the use of 2,4-D or MCP is not recommended.

The best suggestion for 1954 is early cutting to prevent seed formation, and the best place to put this cutting is in the silo. Making grass silage means feed that animals will eat, yellow rocket and all. Making hay at the normal time means more yellow rocket and other weeds wherever the manure is spread. The manure spreader is the best weed seed spreader on New York farms today.

Remember!

Not all weeds are bad,

but

the good ones never cause any trouble.

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1954 Chemical Weed Control Recommendations

CROP	CHEMICAL AND RATE PER ACRE	REMARKS
CORN **For trial use**	Dow Premerge or Sinox P. E. (6 pounds)	Application made at planting time. Mount spray nozzles directly on planter. Treat 10- to 12-inch band directly over row. Six pounds (2 gallons) of chemical should treat 3 acres. Reduces competition in row for 4 to 6 weeks. In some cases, has resulted in suppression of perennial grasses. Apply in 30 gallons of water per acre.
Pre-emergence (apply from 3 to 5 days after planting)	Low volatile ester of 2,4-D (1.5 pounds)	Use pre-emergence only on heavy soils. Low-volatile esters safer and more effective than amines. Pre-emergence desirable where moisture conditions may prevent early cultivation. May be ineffective if dry weather follows treatment.
Post-emergence Corn from 4 to 10 inches tall	2,4-D amine (⅓ pound) Low volatile ester (¼ pound)	Treatment at this stage is strongly recommended. Corn at this stage is most resistant to treatment and the broadleaved weeds are most susceptible. Some leaf rolling may occur. Normally not serious with recovery rapid. More noticeable where hot, dry weather follows treatment.
From 10 to 24 inches tall	2,4-D directional spray (¾ to 1 pound). Not recommended as overall spray	No recommendation will be made for overall treatment of corn more than 10 inches tall. Most of the serious injury on corn has resulted from treatment at this stage. If treatment is made, use drop pipes and keep spray off corn leaves.
OATS or SPRING BARLEY **From 2 to 6 inches tall** (seeded to legume)	Dow Premerge or Sinox P. E. (1½ to 2 quarts)	Treatment must be applied when weeds are seedlings. Slight to severe burning of oats may occur, depending on temperature. Recovery rapid. Height of oats not so important as size of weeds. *The weeds must be* seedlings. Do not use 2,4-D or MCP at this stage. SEE BELOW.
From 6 to 15 inches tall (canopy to protect legume essential)	2,4-D amine or MCP amine (¼ pound in from 5 to 7 gallons of water)	Canopy of weeds and oat plants to protect legume is essential. Correct amount of chemical extremely important. *Be sure to calibrate equipment.* Alfalfa and birdsfoot trefoil most susceptible. Red clover most resistant. *Keep pressure down (30 to 40 pounds).*
From 4 to 15 inches tall (not seeded to legume)	2,4-D amine (¼ pound in 5 to 15 gallons of water)	2,4-D amine is most economical chemical available. Use amount of chemical recommended. Oats most susceptible of cereal grains. Barley most resistant.
WINTER WHEAT or BARLEY **Fall treatment** (to be spring seeded to legume)	2,4-D amine (0.3 pounds in 5 to 15 gallons water)	Fall treatment has resulted in injury to crop. Crop should be from 3 to 6 inches tall. Suggested only where yellow rocket or vetch is a serious problem and legume seeding is to be made in early spring.
Spring treatment (after legume seeding) Canopy essential.	2,4-D amine or MCP amine (¼ pound)	Canopy of crop and weeds important. Apply just before jointing or at full tiller stage. Keep pressure down to 30 to 40 pounds. Alfalfa and birdsfoot trefoil most susceptible legumes. *BE CAREFUL.* Make certain there is a good canopy.
NEW OR ESTABLISHED LEGUME SEEDINGS. Red Clover, Ladino Clover, Alfalfa or Birdsfoot Trefoil	No chemicals recommended	No chemicals have yet proved satisfactory for weed control in these two legumes. Control as many weeds as possible before making legume seedings. Use high-quality, clean seed. Early cutting of new seedings to prevent yellow rocket and other weeds from producing seed is strongly recommended. Making grass silage is effective.
PERMANENT PASTURES	Low volatile ester or **amine** 2,4-D (½ to 1½ pounds in 10 to 100 gallons of water)	The amount of 2,4-D required depends on the weed species present. More than one treatment is normally necessary to control perennial pasture weeds. Wild white clover may be killed or severely injured. Chemical treatment is not a substitute for good management. Run-out pastures should be plowed, limed, fertilized, and reseeded. Mowing of pastures after each grazing period or at least twice per season reduces the weed problem.
Chemical Renovation	TCA (25 pounds per acre) For control of broad-leaved weeds, 2,4-D may be added	This is not a general recommendation for New York. Some interest has been shown, and in experiments at other stations the method has shown promise. As much as 25 pounds of TCA will kill existing sod. The method is not a replacement for plowing where plowing is possible. Treatments should be made on closely grazed or mowed areas. Thorough discing from 4 to 6 weeks after treatment recommended. Use of treatment on low-value land questionable because of cost.
PERENNIAL WEED CONTROL		Bedstraw can be a serious problem in birdsfoot trefoil seeding left down

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PERENNIAL WEED CONTROL **Bedstraw**	Dow Premerge or Sinox P. E. (4 quarts per acre in early spring and 4 quarts after first cutting)	Bedstraw can be a serious problem in birdsfoot trefoil seeding left down for several years. It is not serious in short rotations if good weed-control practices are followed. Dinitro will not give 100 per cent control of bedstraw, but is the only material that has shown promise to date. The best suggestion is to keep a careful check on new seedings and dig out any bedstraw plants that appear.
Horse Nettle	2,4-D + 2,4,5-T or 2,4,5-T (2 pounds per acre)	The best control of horse nettle has been obtained with 2,4-D + 2,4,5-T or 2,4,5-T. One treatment does not give 100 per cent kill. New plants come up from rootstocks and seed. Several seasons are required for control. Control in growing crops is not possible using chemicals.
Milkweed		No selective chemical control has been found for milkweed. Seed-pod formation can be prevented, with 2,4-D plus 2,4,5-T. The spread of milkweed can only be prevented by community, county, and state-wide cooperation. Farmer organization and cooperation is strongly recommended.
Quack-grass	TCA (80 to 100 pounds)	From 80 to 100 pounds of TCA per acre, combined with cultivation, controls quack. Late-summer treatment recommended. Plow shallow, disc, and treat. For large areas, however, fallow is most effective and economical practice. Maleic Hydrazide has shown promise for quack suppression. Research is in progress with this material.
Thistles	2,4-D ester or MCP (1.5 pounds in enough water to give good coverage)	MCP more effective for thistle control than 2,4-D. An application of 1.5 pounds during the pre-bloom stage has been most effective. Use enough water to wet the entire plant. A combination of mowing and chemical treatment speeds up control. Spot treatment is recommended where clovers are present.
Chicory	2,4-D (½ to 1 pound)	Treatment to chicory (½ pound per acre of 2,4-D) in the fall or spring while the plants are in the vegetative stage gives good control. Community or county control programs strongly recommended.
Wild Onion	2,4-D ester (1½ pounds)	The control of wild onion is difficult. One treatment will not do the job. Treatment of wild onion in pastures, in the spring and fall over a 3-year period will get results. Spot treatment can be used for scattered plants. In wheat, ½ pound of 2-4,D applied in the spring reduces the number of aerial bublets formed.
SUDAN GRASS	See Recommendations for oats and spring barley	Chemical treatment may stunt sudan grass. Allow at least 1 foot of growth after treatment before grazing. Danger of prussic-acid poisoning.
WOODY PLANTS **(As summer foliage spray, hedge rows, roadsides, pastures)**	2,4-D + 2,4,5-T followed by 2,4,5-T (if necessary)	From 4 to 6 pounds of chemical in 150 gallons of water for brush up to 4 feet tall. Taller brush should be cut and regrowth sprayed. Leaves and stems of all plants must be thoroughly wet. Use 2,4,5-T in oil as follow-up basal spray to get the difficult-to-kill species not controlled by foliage treatment. Keep livestock off areas where choke cherry or wild cherry have been sprayed. Be cautious of drift to susceptible crops.
	Ammate (75 pounds in 100 gallons of water)	One application of ammate as effective as 2,4-D + 2,4,5-T, but more expensive. It is safer to use near valuable plants than 2,4-D + 2,4,5-T. Ammate is a contact herbicide and kills or injures all above-ground parts which it contacts. The use of a spreader-sticker normally gives better coverage and, therefore, better control.
As basal spray	2,4-D + 2,4,5-T (4 to 6 pounds) or 2,4,5-T (4 pounds) in 40 gallons No. 2 diesel fuel	For best results, a uniform cover on the trunk or stem of plant from ground line to height of 18 inches is recommended. Basal spray gives as good or better control than foliage. Can be applied throughout season. *Avoid treatment just before plants leaf out in spring. Kill has not been consistent.* Good kill is the result of good coverage. An excess of spray to run down on to roots essential.
Stump treatment	2,4-D + 2,4,5-T (8 pounds) or 2,4,5-T (6 pounds) in 40 gallons No. 2 diesel fuel	Results best when applied immediately after cutting. Root crown, exposed roots, sides, and cut surface of stumps must be covered. An excess of spray to run down on the roots essential.

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